



# TuffPoxy™ 9

## Crack Injection Epoxy

### 1.01 DESCRIPTION

**TuffPoxy™ 9 is a plural component, unique formula developed for structural concrete repair by crack injection, gravity feed or patching. It can be used as a liquid binder for sand, aggregate or any other mineral filler to patch or resurface damaged concrete slabs. This material may be used to repair masonry, wood, and other rigid construction materials. TuffPoxy™ 9 is 100% solids, VOC free and Butyl Glycidyl Ether (BGE) free. Please use the correct product grade that complies with VOC regulations as per federal, state, statutory bodies, county and city regulations/codes at the place of installation of product.**

### 1.02 USES

- Pressure-injection of cracks in structural concrete, masonry & wood
- Gravity-feed of cracks in horizontal concrete and masonry
- Epoxy resin binder for epoxy mortar patching
- Seal concrete from water, chlorides, and mild chemical attacks

### 1.03 ADVANTAGES

- 100% solids
- No Volatile Organic Compounds (VOC's)
- No Butyl Glycidyl Ether (BGE)
- Low viscosity
- Friendly 2:1 mix ratio
- Excellent adhesion
- High strength
- Longer working time

### 1.04 STANDARDS

**TuffPoxy™ 9** meets or exceeds the ASTM C881, Types I and IV, Grade 1, Class C standard.

### 1.05 COLOR

Clear to Amber

### 1.06 PACKAGING

450 ml pre-packaged cartridge

1-gallon kits: 2/3 gallon (2.52 liters) can of Side A and 1/2 gallon (1.89 liters) of Side B

3-gallon kits: 2 gallons (7.56 liters) of Side A and 1 gallon (3.78 liters) can of Side B

15-gallon kits: 10 gallons (37.8 liters) pail of Side A and 5 gallon (18.9 liters) pail of Side B

165-gallon kits: 110 gallon (416.4 liters) drum of Side A and 55 gallon (208.2 liters) drum of Side B

### 1.07 COVERAGE

1 gallon (3.78 liters) yields 231 cuin (0.0037 cum) of adhesive

1 gallon (3.78 liters) of adhesive when mixed with 5 gallon of kiln-dried aggregate, yields approximately 808.5 cuin (0.0132 cum) of epoxy mortar.

### 1.08 PREPARATION

To achieve excellent adhesion, the substrate should be free of all loose and foreign material and should be clean. Oils, grease, waxes, or other contaminants must be removed prior to application. Be sure the crack is open where ports are placed. Set ports with Putty.

### 1.09 MIXING

Mix 2 parts Side A resin to 1 part Side B hardener for 3 minutes using a "Jiffy" Mixer and a slow speed drill. Mix at slow speed (less than 850 rpm) to avoid air entrainment. Do not mix more material than can be used within the stated working time. At higher temperatures, you will have less working time at higher temperatures.

### 1.10 APPLICATION

Open and clean cracks. Set ports between 4-6 inches (10-16-14.24 cm) using putty. Open all ports before beginning. Fill cracks to each port using Putty. Let Putty cure. Using proper application methods, i.e. dual cartridges, slowly pump **TuffPoxy™ 9** into lowest port until **TuffPoxy™ 9** flows from next port above the first. Close port and remove cartridge from first port and move to next port, always move UP so that all air escapes. Remove until you have filled and closed all ports.

### 1.11 CLEAN-UP

**TuffPoxy™ 9** and sealing pastes, before they are fully cured (hard), may be removed from tools with warm soapy water.

### 1.12 LIMITATIONS

Always test a small amount to insure that the product is mixed thoroughly and that the material will harden properly before proceeding. Do not thin with solvents. Minimum age of concrete must be 3-7 days, depending on curing and drying conditions.

### 1.13 CAUTION

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize the exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymer, sanding, etc.) may cause high vapor concentrations. Do not weld on, burn or torch the **TuffPoxy™ 9** or any epoxy material. Hazardous vapor is released when an epoxy is burned. Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention. Read and understand all caution on can labels and material safety data sheets before using this material.

**READ SDS PRIOR TO USING PRODUCT. KEEP OUT OF THE REACH OF CHILDREN.**

1.14 PHYSICALS	
Mix Ratio by Volume	2:1
Viscosity	100-500 cps
Gel Time (60 g mass)	45 minutes
Tack Free Time (73°F or 23°C)	3 to 5 hours
Tensile Properties (ASTM D638)	
7 day cure	Tensile Strength: 10,000 psi (69.0 MPa)
	Tensile Elongation: 1.2%
Bond Strength (ASTM C882)	
	2 day cure: 2,100 psi (14.5 MPa)
	14 day cure: 2,200 psi (15.2 MPa)
Compressive Properties (ASTM D695)	
7 day cure	Compressive Strength: 11,000 psi (75.9 MPa)
	Compressive Modulus: 300,000 psi (2,070 MPa)
Shear Strength (ASTM D732)	6,000 psi (41.4 MPa)
Flexural Strength (ASTM D790)	7,500 psi (51.7 MPa)
Shrinkage on Cure (ASTM D2566)	0.001
Thermal Compatibility (ASTM C884)	Pass
Heat Deflection Temperature (ASTM D648)	123°F (50°C)
Water Absorption (ASTM D570)	0.3% (24 hr)

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

#### LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical properties. With preapproval, PSI warrants that its products, when properly installed by a state licensed waterproofing contractor according to PSI guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of 12 months. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

#### DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.